

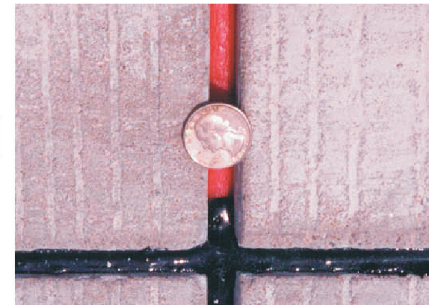
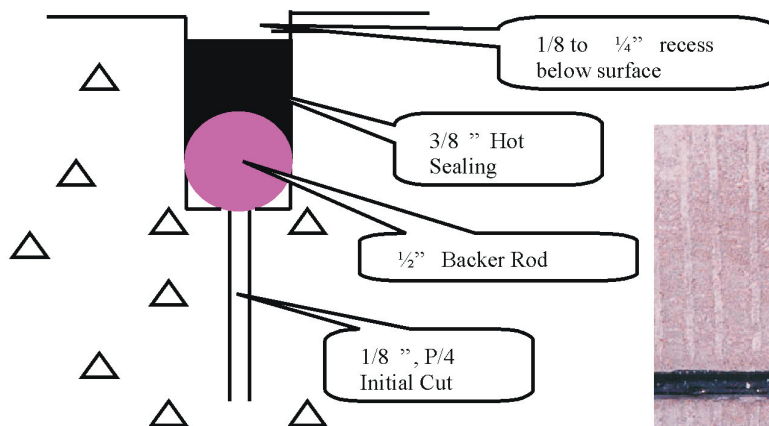
Evaluation of Cutco Sawing and Sealing Method

Currently MoDOT is using only conventional saw cut and seal method for joints on newly placed PCCP. The objective of this study is to monitor the effectiveness of the Cutco method as compared to the conventional MoDOT joint sawing and sealing method. The proposed method is intended to enhance PCCP joint performance by improving resistance to water and debris penetration at the joint. This decreased water penetration is hoped to result in a lower maintenance cost.

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There are three test locations: two test sections on the southbound lane of the Route 67 Bypass in Butler County, two test sections on the westbound lane of Route 44 in Greene County, and two test sections on the southbound lane of the Route 71 Bypass in Newton County. All sections are utilizing the conventional method of joint sealing in the opposite direction lane at each test location. Both types of joints were installed in the summer of 2000, and there was no problem encountered during the installations. The installation cost was about the same with Cutco cutting/sealing compared to MoDOT's traditional method.

So far, both types of joints are performing well. No maintenance work has been performed on either of them. Though a direct comparison between the maintenance cost of two types of joints cannot be made at this time, it can be said Cutco joints probably will provide a longer service. The MoDOT conventional joint is the type filled with hot pour full depth, and will deteriorate over the years. As the pavements expand and contract, sealer is pushed above the pavement surface and is removed by normal traffic

and maintenance operations. With Cutco joint, the sealer will not protrude above the pavement, therefore the sealer would always be intact resulting in slower deterioration.

The evaluation indicates that Cutco method can provide excellent joints on newly placed concrete pavement. Compared to MoDOT's traditional method, it has about the same installation cost, and may have the benefits of less maintenance. Because all of the test sections are in the southern part of the state where a more temperate climate is experienced, it is unknown if the longer and deeper frost in the northern Missouri parts will have a bearing on the compared performance of the two types of joints. It is

recommended the state should consider an increased use of this method on PCCP joints in southern locations of the state, and may be more testing in the northern parts of Missouri.

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